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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/241,851	02/02/1999	TAKEHIKO NAKAI	865.4335	9228

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EXAMINER

CHANG, AUDREY Y

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 05/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/241,851	NAKAI, TAKEHIKO	
	Examiner	Art Unit	
	Audrey Y. Chang	2872	

-- Th MAILING DATE of this communication appears on th cover sh t with the correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remark

- This Office Action is in response to applicant's amendment filed on March 11, 2002, which has been entered as paper number 20.
- By this amendment, the applicant has newly added claims 20-22.
- Claims 1-7, and 9-22 remain pending in this application.
- The rejections to claims 18 and 19 under 35 USC 112, second paragraph, set forth in the previous Office Action **still holds**, excepts for the dependency from claims 20-22.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 18 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The reasons for rejection are set forth in the previous Office Action dated October 11, 2001.

The phrase "said pair of diffractive gratings" recited in claims 18 and 19 as depends from newly added claims 20-22 is indefinite since it lacks proper antecedent basis from their respective based claims.

The phrase "lens system" recited in claims 18 and 19 is indefinite and confusing since it is not clear how does it relate to "a lens" recited in their respective based claims 21-22.

Clarifications are required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1, 11, 12, and 13-19 and *newly added claims 20-22* are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Ishii.**

The reasons for rejection are set forth in the previous Office Action dated October 11, 2001.

The newly added claims 20-22 claim essentially the same features as in claim 1 and they are rejected for the same reasons. Ishii teaches that the diffraction optical element may be formed on a lens (please see Figure 22).

With regard to claims 18 and 19, although these references do not teach explicitly about the claimed sizes for the flat surface of the serrated grating portion and the curvature of the curved surface of the grating however such modifications are considered to be obvious matter of design choices to one skilled in the art since it involves merely change in the size. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

5. **Claims 2-7, 9-10 and 13-19 dependent therefrom are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Ishii in view of the patent issued to Sakai et al**

The reasons for rejection are set forth in the previous Office Action dated October 11, 2001.

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Double Patenting

6. Applicant is advised that should claim 1 be found allowable, claim 11 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1, 11, 12 and newly added claim 22 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,122, 104.

The reasons for double patenting are set forth in the previous Office Action dated October 10, 2001.

Response to Arguments

9. Applicant's arguments filed on March 11, 2002 have been fully considered but they are not persuasive. The newly added claims 20-22 have been fully considered and they are rejected for the reasons stated above.

10. In response to applicant's arguments which state that the cited Ishii reference does not teach explicitly that the spacer layer is made of a material having refractive index 1, which therefore differs

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from the instant application the examiner respectfully disagrees. Although Ishii reference does not identify explicitly that the spacer layer has a refractive index of 1 however this reference **never excludes** the refractive index to be 1. Ishii gives **general** expressions and formulas for the diffractive optical element having a plurality of layers (each has a particular refractive index) wherein particular layer materials having refractive indices satisfy the expressions may be chosen to make up the diffractive optical element. Since the expressions and formulas never prevent the refractive index of the spacer layer n_2 from taking a value of 1 and since spacer layer material such as air having refractive index 1 is very well known in the art it would have been obvious matter of design choice to one skilled in the art to chose air as the spacer layer material for the diffractive optical element.

11. In response to applicant's argument and confusion concerning the cited Sakai et al reference the examiner respectfully directs the applicant to study the cited reference more carefully. The examiner wishes to point out that the cited Sakai et al reference particularly points out that the diffractive grating having the configuration of a curved portion (20, Figure 3(a)) and a flat land (M) possesses high diffraction efficiency, (please see column 6, lines 32-57). The curved region and the flat land region increase the area, therefore intensity, of the incident light that incident on the diffraction grating to satisfy the grating condition for forming non-destructive diffraction pattern. This therefore enhances the diffraction efficiency. The applicant is respectfully reminded that the disclosure of the particular configuration of the diffractive grating of Sakai et al that reads on the limitations of the instant application is sufficient to reject the claims.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 703-305-6208. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on 703-308-1637. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

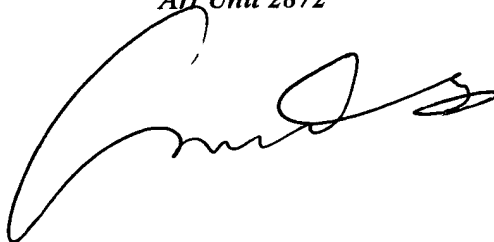
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Audrey Y. Chang
Primary Examiner
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A. Chang, Ph.D.
May 7, 2002

A handwritten signature in black ink, appearing to read 'Audrey Y. Chang', written in a cursive style.